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7 *Sales and Consumer*
Acceptance of Certain
DEHYDRATED VEGETABLES
in Grand Rapids, Michigan

BY JAMES C. MOORE

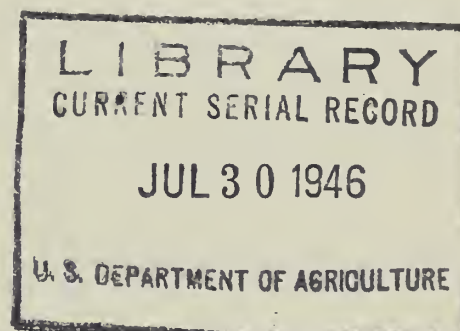


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CONTENTS

	<u>Page</u>
Objectives.....	2
Procedure.....	2
Prices.....	2
Materials and supplies.....	2
Quality of product.....	3
Test city.....	3
Test stores.....	4
Collecting the data.....	6
Analysis of sales.....	6
Sales by areas and products.....	6
The merchandising program.....	10
Effect of promotional work.....	13
Multiple housing units.....	15
Sales June 6 to October 1.....	15
Price comparison.....	19
Acceptability of the dehydrated products.....	19
Costs.....	24
Summary and conclusions.....	26
Appendix.....	28

The Cooperative Research and Service Division conducts research studies and service activities relating to problems of management, organization, policies, merchandising, sales, costs, competition, and membership arising in connection with the cooperative marketing of agricultural products and the cooperative purchase of farm supplies and services; publishes the results of such studies, confers and advises with officials of farmers' cooperative associations, and cooperates with educational agencies, cooperative associations, and others in the dissemination of information relating to cooperative principles and practices.

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WASHINGTON 25, D. C.

SALES AND CONSUMER ACCEPTANCE OF CERTAIN DEHYDRATED VEGETABLES IN GRAND RAPIDS, MICHIGAN

March 6 to September 30, 1945

by

James C. Moore

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The United States Department of Agriculture Inter-Bureau Committee on Postwar Planning in 1943 undertook to study the postwar marketing problems of certain agricultural products whose production had been expanded to meet war requirements. The dehydration industry had increased approximately 500 percent to meet the requirements of our armed forces and lend-lease, and speculation as to the probable postwar markets for dehydrated vegetables and certain other products had become very considerable.² In practically every wartime period the processing of certain foods through dehydration has proved to be the most economical method of keeping the armies fighting in distant war theaters supplied with nutritious food. This economy in transporting food to great distances was responsible for the concentrated effort of the Department of Agriculture as well as that of numerous other research agencies and individuals looking toward the improvement of methods and techniques of dehydration. If, during the wartime period, dehydration was found to be the most economical method of supplying our armed forces in distant countries with food comparable in nutritional value to similar foods processed by any other method, then given the proper study of technique and consumer preferences it might have something to contribute to our civilian economy.

Several farmer cooperatives spent their own money building and equipping modern plants for dehydrating potatoes, sweetpotatoes, and vegetables to help feed our Allies and our armed forces on far-away battle fronts. Realizing the financial hazards involved, some of the cooperatives requested the Cooperative Research and Service Division of the Farm Credit Administration to help determine the practicability of developing a civilian market for dehydrated vegetables.

Since the number of cooperatives involved was comparatively small and the cost of conducting a worth while test was estimated to run into

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²Two reports are of particular interest to the dehydration industry: Inter-Bureau Committee on Postwar Planning, U.S. Department of Agriculture and War Food Administration. "Postwar Readjustments in Processing and Marketing Dehydrated Fruits and Vegetables." Unnumbered Rpt. 99 pp. processed 1945. Also U.S. Department of Agriculture. "Acceptance of Dehydrated Foods by Chicago Housewives." BAE Cir. MTS-23. 18 pp. processed 1944. The first, prepared under the direction of the committee, is a compilation of information from various Federal, State, and private agencies relative to the progress and scope of dehydration and the experience of the marketing organizations in marketing dehydrated products, principally soup mixes. The second gives the results of housewives' acceptance of dehydrated products in the City of Chicago as shown by a survey of the Bureau of Agricultural Economics made during the spring of 1944.

considerable money, the test was made in cooperation with the National Dehydrators Association. Several cooperatives are members of this association and were represented on the test sales committee which consisted of representatives of six of the principal firms engaged in dehydrating fruits and vegetables.³

By pooling technical guidance of the Division, financial support of the industry, and merchandising skills of the trade, a test was made upon a basis and with results unattainable by any one group working alone.

Whether or not the manufacturers of dehydrated foods can pass on to the consuming public the potential savings in transportation, storage, and other handling charges of their products may be largely in their hands.

OBJECTIVES

This study was undertaken to provide the dehydration industry with basic information on (1) consumer acceptance of certain dehydrated vegetables distributed through regular trade channels; (2) the influence of income upon sales; (3) the probable place of dehydrated products in the home or camp; and also (4) some of the costs associated with promoting a new product.

PROCEDURE

Basic factors and procedures that would influence the program were carefully decided upon in committee meetings so that the test might be made insofar as possible under practical merchandising conditions.

To be sure that distribution of the merchandise would be through normal channels, a local broker⁴ was engaged to distribute the merchandise to retail stores and to represent the National Dehydrators Association in carrying out the program.

PRICES

Prices of all products were to be reasonable in comparison with those of fresh, canned, or frozen products. Retail prices based upon War Food Administration records of production costs and estimated costs of packaging, selling, advertising, and incidentals were finally adopted. The submitted estimates were revised upward to allow approximately 25 percent for advertising and selling. Most retailers agreed to sell at these prices.

MATERIALS AND SUPPLIES

Tin was considered to be the most desirable container for dehydrated products under wartime conditions. The research departments of both the

³F. J. Holland, Little and Company; L. L. Branthoover, Idaho Potato Growers, Inc.; F. Webster Browne, H. C. Baxter and Bro.; A. E. Burnett, General Mills, Inc.; J. H. Hume, Basic Vegetable Products Company; R. J. Hooven, Beech-Nut Packing Company, and James C. Moore, Farm Credit Administration.

⁴Elmer A. Briggs, Arthur R. Hurst Company.

American and the Continental Can Companies, Chicago, cooperated with the committee in determining and obtaining the proper size of container for each of the products.

Labels were developed in cooperation with the Rossotti Lithographing Company, North Bergen, New Jersey. Every effort was made to make them attractive so they would be competitive with labels on other canned goods.

The sources of the supplies of the vegetables used were limited to those areas that normally produce large quantities of raw products. Thus a greater degree of uniformity in the test material was obtained and, at the same time, the widest possible participation was permitted.

All products supplied were to meet Government specifications for the commodity and be taken from regular stock as packaged. Each was to be shipped to a central packaging plant - the Reid Murdoch and Company at Pierceton, Indiana - in the approved type of container for that particular vegetable.

QUALITY OF PRODUCT

The products were prepared, packaged, and inspected by regular United States Department of Agriculture inspectors. All products met military and Government specifications at time of shipment from manufacturer. During packaging operations at Pierceton, Indiana, the products were further inspected by a representative of the Research Laboratory, Chicago Quartermaster Depot. The products met military and Government standards when placed in the consumer package.

Samples of the consumer package were shipped to the Western Regional Research Laboratory, United States Department of Agriculture, Albany, California for further tests. Reports from this laboratory were that the products were up to military and Government standards but not up to the maximum standards of quality which could be attained under ideal manufacturing conditions. Samples of each item taken from the regular stock also were sent to 16 "test kitchens" including those of magazines with national circulation. Replies were received from 6 of these. The comments of these 6 "test kitchens" are summarized in table 7, Appendix.

TEST CITY

Grand Rapids, Michigan, county seat of Kent County chosen as the test city, is the center of a large farming area that produces surpluses of onions, potatoes, and beans. According to the 1940 census its population was 164,000 within the city limits and an estimated 16,000 in the suburban area immediately adjacent to the city.⁵ Kent County had a population of approximately 246,000, which remained relatively stable during the war.

⁵See reports of the U. S. Dept. of Commerce, Bureau of the Census, 1940.

TEST STORES

There were 201 grocery stores in Grand Rapids not selling fresh meat and 244 combination stores handling both groceries and meats, a total of 445 stores.⁶ In 1938 the combined sales in these stores were \$13,026,000, the combination grocery and meat stores accounting for almost \$10,000,000.

According to local sources of information, 234 stores of the total could be classed as A or B or as national chains; thus approximately 53 percent of the total stores fell into this group. It had been previously determined that the "test stores should be limited to those stores falling into either class A, class B, or national chains. Forty-five test stores were selected that give a representative cross-section of the various marketing communities.⁷

The test stores were located, insofar as possible, to represent a cross section of the Grand Rapids marketing public. The sales data were tabulated by areas. These areas, together with the approximate location of the test stores, are shown in figure 1.

The principal characteristics of these areas, as determined from available census data and personal observations, are as follows:

AREA A Middle- and upper-income groups with homes largely owner-occupied. (5 test stores.)

AREA A-1 Mainly middle- and upper-income groups with a small proportion of low-income families including foreign born and colored. The area also includes a large number of apartment dwellers. (6 test stores.)

AREA B Middle- and low-income groups owning and renting modest homes and apartments.. (7 test stores.)

AREA C Low- and middle-income groups mainly of Polish, Hollander, and German descent; many have large families. (9 test stores.)

AREA D Low- and middle-income groups of foreign descent mostly living in apartments. (2 test stores.)

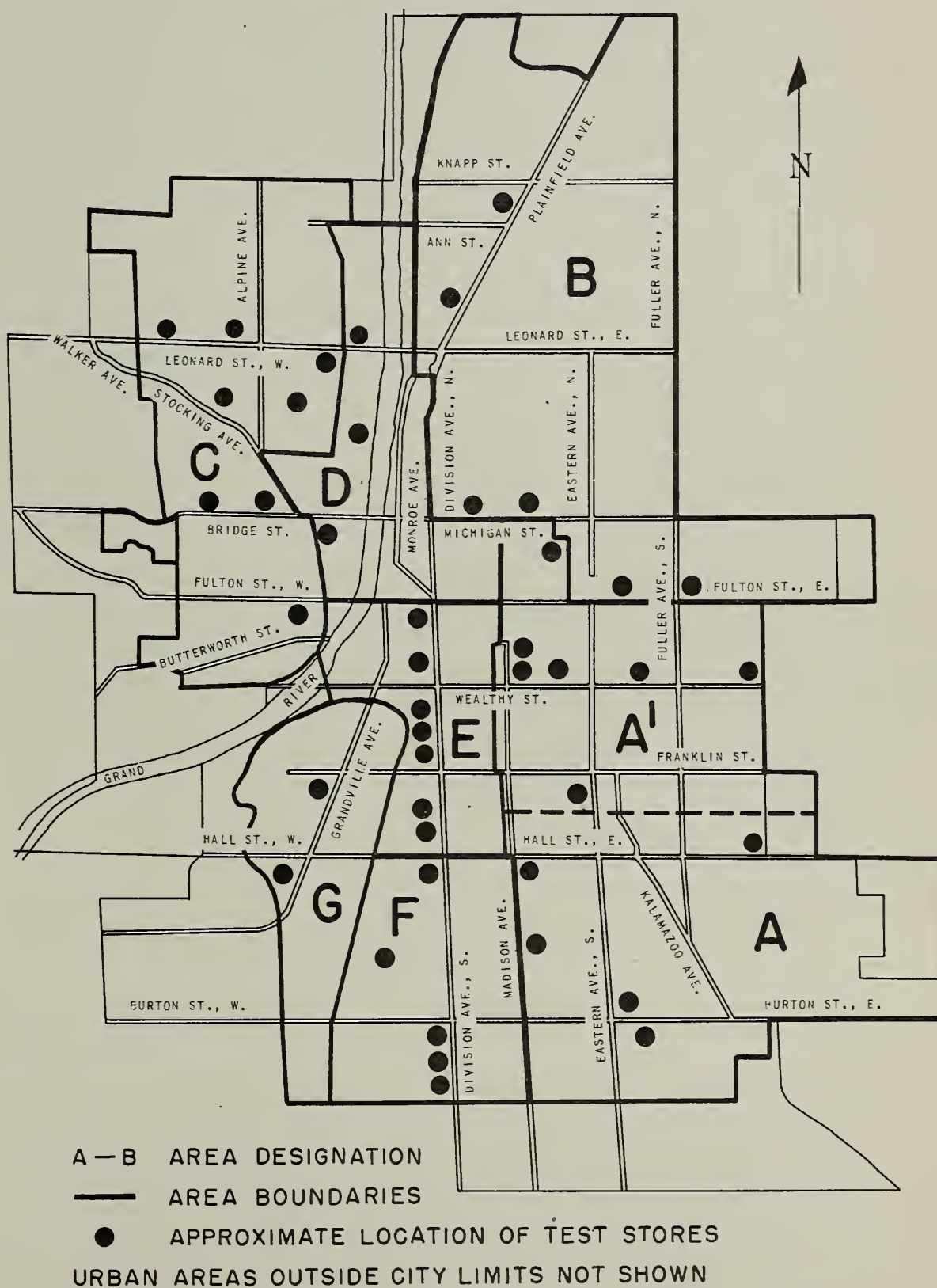
AREA E Low-income group mainly factory employees and laborers of foreign descent. (8 test stores.)

AREA F Low- and middle-income groups living on outskirts of the city with space for gardening. (6 test stores.)

⁶See U. S. Dept. of Commerce, 16th Census of Business-Retail Trade, 1939

⁷The relationship of the test stores to total A, B, and national chain stores by classes is as follows: Total class A, class B, and national chains, 234; class A and class B, 211; national chains, 23. Some 90 percent of the group are class A and class B, and 10 percent are national chains. The test stores are divided as follows: Classes A and B, 35, or 77 percent of the total and national chains, 10, or 23 percent of the total. No attempt was made to differentiate between local chain stores, of which there are 23, and the other independent class A and class B stores.

FIGURE 1
 AREA MAP AND LOCATION OF TEST STORES
 GRAND RAPIDS, MICHIGAN



SOURCE: Basic Data, Housing, U.S. Census, 1939, and personal observations.

AREA G Low- and middle-income groups mostly of Hollander and Polish ancestry. (2 test stores.)

A more complete description of these areas is included in the appendix of this report.

COLLECTING THE DATA

The sales data for each store were assembled by making a weekly inventory of stock on hand on each Monday or Tuesday. With few exceptions the stores were inventoried on the same day each week and, therefore, the reports are closely comparable from week to week. In each case Monday is reported as the inventory date.⁸

Comparative price data for fresh products were assembled as follows: Each Thursday the retail prices of competitive items, as advertised by the principal merchants in the local papers, were recorded. A record was also made of the quoted prices to the farmer and to the retailer.

ANALYSIS OF SALES

SALES BY AREAS AND PRODUCTS

The weekly sales of each of the Hy-Rated Brand dehydrated vegetables for each of the areas described in the foregoing are presented in table 1. These data indicate a variation in the acceptance of dehydrated vegetables for each of the areas and also for each of the items on sale.

In area A-1 the largest volume of all products with the exception of diced white potatoes was sold. In potatoes this area was second. Area B was second in volume of sales with the exception of diced white potatoes, in which it rated first. In area A, which lies immediately adjacent to area A-1, the total sales of all items was about half those in area A-1. The sales in area A ranged from 146 cans of beets to 305 cans of sweetpotatoes. In area D, which had the smallest volume of sales, the volume in individual items ranged from 29 cans of diced white potatoes to 77 cans of sweetpotatoes. Similar variation in sales of the individual items was apparent within areas C, E, F, and G.

The differences pointed out in connection with table 1 become more apparent when table 2 is examined. The sales in area A-1 and those in area B each totaled almost twice as many as those in any other area and more than 7 times the sales in area D. These differences are significant and indicate that the number of stores in which the products were sold is not the most important factor. Area C had the greatest number of test stores - 9, yet the total sales in this area reached only 1,221 cans as compared with area A-1 which had only 6 stores and total sales of 2,200 cans.

⁸The first inventory on March 5 did not cover all the stores and was made over several days' time. This is the only major deviation from the foregoing procedure.

Table 1. - Weekly sales of dehydrated vegetables, in test stores, by areas, Grand Rapids, Michigan, March 6 to June 4, 1945

Week ending	Number of cans sold in area								
	A	A-1	B	C	D	E	F	G	Total
Beets:									
March									
6.....	22	58	44	27	7	24	41	14	237
12.....	10	24	32	10	4	14	18	0	112
19.....	16	17	24	1	2	6	11	6	83
26.....	5	27	11	16	1	24	7	1	92
April									
2.....	7	22	21	9	3	9	6	4	81
9.....	2	12	4	7	3	4	3	1	36
16.....	9	7	3	7	2	6	2	4	40
23.....	3	12	8	3	2	2	6	1	37
30.....	3	12	8	3	2	2	6	1	37
May									
7.....	29	21	14	7	1	5	8	4	89
14.....	2	9	22	11	0	5	10	8	67
21.....	5	19	15	6	8	12	7	11	83
28.....	21	11	52	18	0	4	1	1	108
June									
4.....	12	39	12	21	2	7	10	0	103
Total.....	146	290	270	146	37	124	136	56	1,205
Carrots:									
March									
6.....	27	72	44	41	8	26	66	14	298
12.....	12	27	41	22	4	17	17	7	147
19.....	10	30	26	12	7	9	27	4	125
26.....	6	28	18	11	3	16	4	4	90
April									
2.....	35	33	22	16	7	15	19	10	157
9.....	5	23	15	7	4	11	20	4	89
16.....	6	22	9	9	0	4	12	9	71
23.....	1	10	10	8	5	3	8	4	49
30.....	1	10	10	8	5	3	8	4	49
May									
7.....	15	10	16	12	1	24	9	7	94
14.....	6	23	12	11	2	14	9	11	88
21.....	1	16	5	8	3	9	14	15	71
28.....	7	11	62	16	5	4	27	6	138
June									
4.....	15	38	23	26	0	2	11	3	118
Total.....	147	353	313	207	54	157	251	102	1,584

Table 1. - Weekly sales of dehydrated vegetables, in test stores, by areas, Grand Rapids, Michigan, March 6 to June 4, 1945 - continued

Week ending	Number of cans sold in area								
	A	A-1	B	C	D	E	F	G	Total
Onions:									
March									
6.....	24	56	52	22	8	21	47	7	237
12.....	12	22	17	3	3	4	9	5	75
19.....	3	24	15	4	2	6	16	13	83
26.....	18	15	18	3	3	56	3	0	116
April									
2.....	2	18	12	5	2	6	20	3	68
9.....	7	11	9	3	5	9	5	4	53
16.....	4	14	16	1	0	11	2	14	62
23.....	2	9	20	4	3	15	4	1	58
30.....	2	9	20	4	2	15	4	1	57
May									
7.....	32	45	6	1	0	7	14	7	112
14.....	14	45	28	16	10	27	19	7	166
21.....	21	60	49	17	6	30	25	7	215
28.....	10	15	123	44	3	10	38	6	249
June									
4.....	9	80	21	14	0	32	20	6	182
Total.....	160	423	406	141	47	249	226	81	1,733
Sweetpotatoes:									
March									
6.....	68	81	75	59	13	44	93	20	453
12.....	25	38	35	26	8	26	19	17	194
19.....	12	54	42	24	4	16	40	11	203
26.....	32	38	38	11	2	18	26	2	167
April									
2.....	25	34	14	18	3	34	40	8	176
9.....	14	19	31	10	5	7	27	6	119
16.....	13	16	14	7	0	7	11	5	73
23.....	10	16	19	19	8	11	19	3	105
30.....	10	16	19	19	8	11	19	3	105
May									
7.....	20	28	27	25	2	12	27	0	141
14.....	19	36	32	14	7	9	20	10	147
21.....	23	36	25	21	4	20	30	12	171
28.....	17	21	89	23	5	5	51	8	219
June									
4.....	17	67	37	68	8	18	24	10	249
Total.....	305	500	497	344	77	238	446	115	2,522

Table 1. - Weekly sales of dehydrated vegetables, in test stores, by areas, Grand Rapids, Michigan, March 6 to June 4, 1945 - continued

Week ending	Number of cans sold in area								
	A	A-1	B	C	D	E	F	G	Total
Diced white potatoes:									
March									
6.....	23	39	51	29	2	22	38	8	212
12.....	4	17	13	8	1	7	6	1	57
19.....	12	26	9	8	3	5	18	4	85
26.....	7	18	17	5	2	14	2	0	65
April									
2.....	2	22	10	5	3	11	8	0	61
9.....	7	9	18	5	7	8	7	7	68
16.....	4	5	7	5	1	6	5	1	34
23.....	12	10	16	5	2	4	8	0	57
30.....	12	10	16	5	2	4	8	0	57
May									
7.....	6	14	22	8	1	12	14	5	82
14.....	3	7	19	5	2	5	1	8	50
21.....	3	17	27	11	1	18	8	7	92
28.....	28	7	96	35	2	9	13	4	194
June									
4.....	41	77	29	36	0	14	14	2	213
Total.....	164	278	350	170	29	139	150	47	1,327
Julienne white potatoes:									
March									
6.....	42	58	35	24	12	16	52	8	247
12.....	14	17	15	7	5	11	27	3	99
19.....	6	27	20	9	4	32	13	3	114
26.....	10	8	14	13	6	17	3	1	72
April									
2.....	8	29	13	7	2	6	18	1	84
9.....	4	9	24	6	3	2	11	3	62
16.....	7	11	8	12	0	12	5	3	58
23.....	1	10	8	6	4	4	5	0	38
30.....	1	10	8	6	1	4	5	0	35
May									
7.....	14	20	15	9	1	12	9	2	82
14.....	5	24	13	19	5	10	4	3	83
21.....	12	25	19	15	3	12	8	7	101
28.....	31	17	70	29	4	2	24	7	184
June									
4.....	39	91	30	51	8	8	33	2	262
Total.....	194	356	292	213	58	148	217	43	1,521

Table 2. - Total weekly sales in test stores of dehydrated vegetables by areas, Grand Rapids, Michigan, March 1 to June 4, 1945

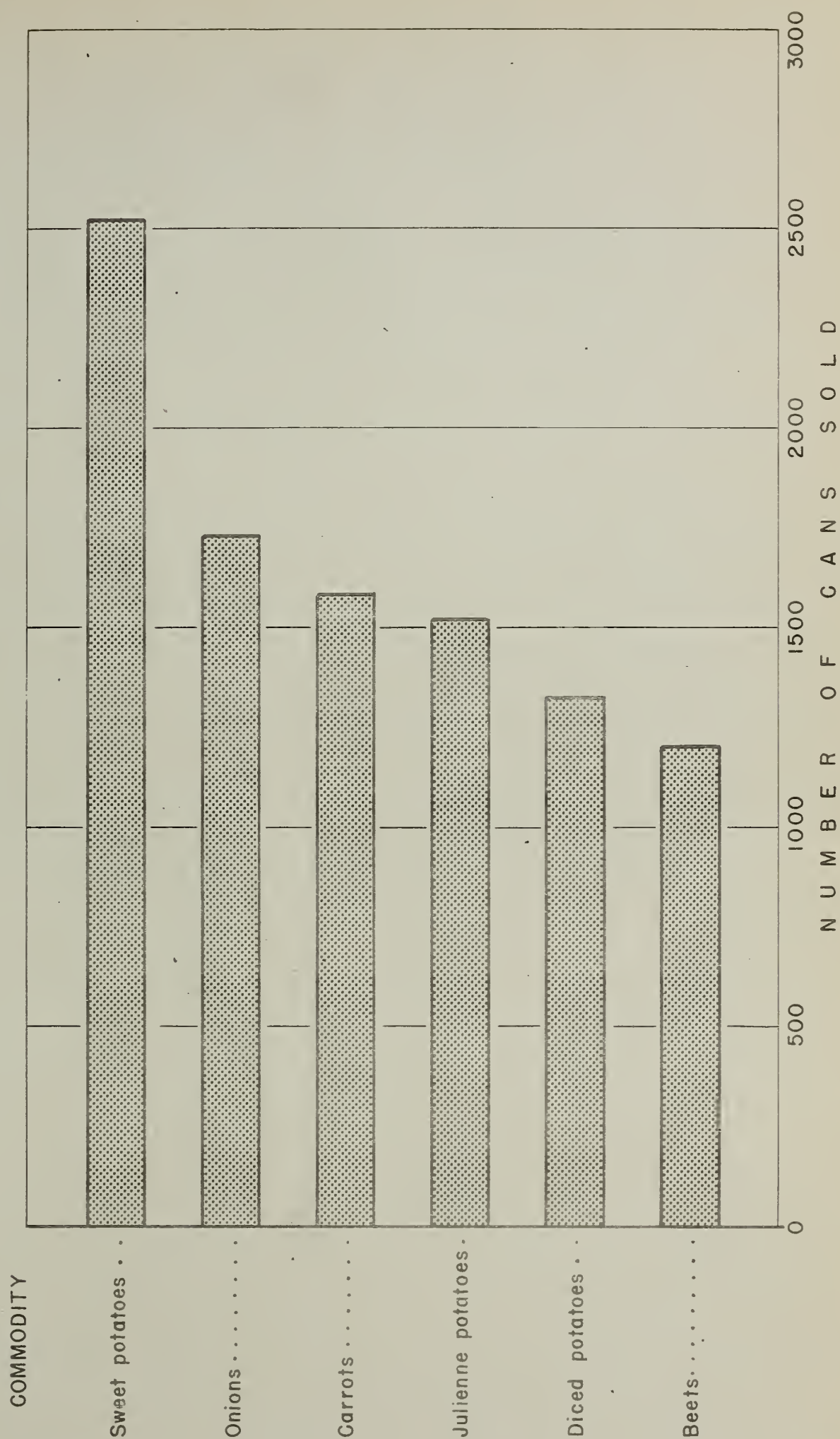
Week ending	Number of cans sold in area								
	A	A-1	B	C	D	E	F	G	Total
All commodities:									
March									
6.....	206	364	301	202	50	153	337	71	1,684
12.....	77	145	153	76	25	79	96	33	684
19.....	59	178	136	58	22	74	125	41	693
26.....	78	134	116	59	17	145	45	8	602
April									
2.....	79	158	92	60	20	81	111	26	627
9.....	39	83	101	38	27	41	73	25	427
16.....	43	75	57	41	3	46	37	36	338
23.....	29	67	81	45	24	39	50	9	344
30.....	29	67	81	45	20	39	50	9	340
May									
7.....	116	138	100	62	6	72	81	25	600
14.....	49	144	126	76	26	70	63	47	601
21.....	65	173	140	78	25	101	92	59	733
28.....	114	82	492	165	19	34	154	32	1,092
June									
4.....	133	392	152	216	18	81	112	23	1,127
Total.....	1,116	2,200	2,128	1,221	302	1,055	1,426	444	9,892
Number of test stores.....	5	6	7	9	2	8	6	2	45

Total sales by commodities are shown in figure 2. Sweetpotatoes led all commodities and accounted for 1/4 of the total volume. In contrast, beets made up only 1/8 of the total. However, the per capita consumption of beets in the United States is far below that of potatoes, sweetpotatoes, onions, and carrots and relatively the dehydrated beets sold rather well.

THE MERCHANDISING PROGRAM

The initial promotional and advertising program was conservative. The educational publicity was centered around three principal events, the first of which was a local Lions Club luncheon. These items were served: onions in a French-style onion soup, beets with Harvard sauce, and mashed sweetpotatoes, all of which were prepared in the hotel kitchen under the general supervision of Basic Vegetable Products Company's home economist. One of the local merchants (Ryskamp Bros.) had set up a display of all the items in the dining room of the Pantlind Hotel where the meeting was held, and he sold approximately 113 sets of six items each to members of the club. Each member was asked to try out the items in his home and report back at the next meeting. Each member was asked to fill out a questionnaire at the following meeting.

FIGURE 2
 SALES OF HY-RATED BRAND VEGETABLES BY COMMODITIES
 MARCH 6 TO JUNE 4, 1945



The second event was a luncheon for the Restaurant and Caterers Association. Here the hotel chef personally prepared for the luncheon three items: onions in French-style onion soup, white potatoes au gratin, and buttered carrots. The other items were passed around for each person to sample. At this meeting the principles involved in dehydration and their relation to other food-processing methods were explained.

The third event was a cooking demonstration including taste testing before the Retail Grocers and Meat Dealers Association. This demonstration was held in the auditorium of the Michigan Consolidated Gas Company and was handled entirely by the company's home economics staff. The test sales program and methods of dehydration were discussed.

Excellent coverage was given in the local papers. In addition to news about the above events they also published several news items about the program.

Advertising - At the beginning of the program two different ads were run alternately. The "Soldier Ad" was used as an "emotional appeal" to people to have dinner with the world's best fed soldier. The "Lady Ad" appealed to the people to try Hy-Rated vegetables on the basis of bringing them back to their natural flavor and appearance by "refreshing" them. These ads were run four times, up to and including March 29, in each of the two local papers' regular food editions. The same ads, mounted on cardboard, were used as posters in the "test" stores.

The second series of ads was termed the "Would You Believe It" series. In these a serious attempt was made to get across the idea that each small can contained enough vegetables, when "refreshed," to serve four people. These ads were educational and were designed to appeal to people's credulity and induce them to try the products.

The third series of ads was termed the "equivalent weight series." These ads were revisions of the above plates designed to get across the idea to "thrifty housewives, fishermen, and campers" that they could buy in dehydrated form the equivalents of several pounds of raw unprepared vegetables with a minimum weight to carry. All these ads were prepared by the Western Advertising Agency of Chicago, Illinois.

Radio - On April 2, a series of 1-minute announcements was started on one of the local radio programs. On April 9, these announcements were increased to two a day. This series was designed to get across the idea of convenience in preparation, garbage disposal, and less weight to carry home. One minute was devoted to each of the five items alternately; however, the other four were also mentioned.

Demonstration - Beginning May 3, local women were employed to demonstrate the product both dehydrated and refreshed in the larger stores. This may be termed a mechanical demonstration. The demonstrators had not had previous experience in selling or in demonstrating. They did not attempt to "sell" to the persons passing the display but did attempt to explain

dehydration and the fact that the small cans contained enough products after "refreshing" to feed four people. They also passed out copies of the booklet "Cooking Dehydrated Vegetables."⁹ When customers bought the product the demonstrator asked for their names and addresses. Some persons were unwilling to give their names; however, a large list of actual purchasers was obtained.

Cooking and Taste Testing — During the 2 weeks from May 21 to June 2, Hy-Rated vegetables were prepared and cooked in three of the "test" stores and in one additional store. Customers were served a plate containing a small portion of each of the products. The potatoes were usually used in a salad and the onions were fried. The other items were prepared in several different ways during this phase of the program. This demonstration was conducted by a person experienced in both selling and demonstration. Names and addresses of customers served were obtained.

Store Display — During the first 14 weeks of the program a "merchandising man" was not employed and, therefore, in some cases the displays were allowed to deteriorate and in others to become hidden or obscured by other merchandise. The effectiveness of the display was usually reflected in the sales. Sometimes the relative position of the display with relation to other items seemed to be reflected in the volume of sales.

EFFECT OF PROMOTIONAL WORK

The promotional activities connected with the program and the weekly sales when correlated as in figure 3, indicated to a limited extent the effect of the various promotional activities on total sales by areas. Beginning with the week of April 30 to May 7, the sales started a definite upward trend. This trend was significant and apparently associated with the promotional program. The "Would You Believe It" series of ads started April 13 and had run 17 times up to and including May 4. However, on May 3 three demonstrators¹⁰ started the mechanical type of demonstration in the larger stores. During the remainder of that week they had demonstrated the vegetables in the dehydrated and the refreshed form in 8 stores. The sales in these stores accounted for 61 percent of the total increase between April 30 and May 7. This upward trend in sales was maintained during the week of May 7 to 14, although not at the same rate.

Beginning May 7, 1-minute spot announcements were started over a local radio station. The following week, May 14, these announcements were increased to twice daily. During this week the "Would You Believe It" series of ads was revised to get over the idea of convenience to "Thrifty Housewives, Fishermen, and Campers" that they could avoid the inconvenience of carrying heavy loads of fresh vegetables by using dehydrated vegetables. The sales for this week were further accelerated.

⁹U. S. Department of Agriculture, Bureau of Home Economics and Human Nutrition, Cir. No. AIS-8, 20 pp.

¹⁰See appendix, p.

During the week of May 21-28 the greatest increase occurred. Two important events occurred during this week. First, a price reduction of all items. Second, a taste-testing type of demonstration. However, the sales increases were principally in two stores located in areas B and C. In each of these stores an experienced demonstrator prepared and served the dehydrated products. In the store located in area C, 109 items were sold while in the store located in area B, 258 items were sold. These sales represented more than three-fourths of the total sales in all stores located within areas B and C.

During the following week this type of demonstration was held in a store located in area A-1. The sales in this store were 211 items during the 2 days' demonstration. This accounted for almost two-thirds of the total sales in area A-1 during this week. This type of demonstration was also held in a nontest store located within area A. The sales in this particular store were 524 items, or almost five times as great as the combined sales in the five test stores located within this area. The combined sales in these four stores used for "taste testing" demonstration were 1,102 items, which exceeded the total sales made in all test stores for any other week excepting the first.

MULTIPLE HOUSING UNITS

Merchants, especially in the food lines, have recognized for some time the apartment dwellers' tendency to purchase packaged foods. This tendency is apparent in both processed and fresh food items. On the basis of data from the Housing Block Statistics, 16th United States Census, a map of Grand Rapids was prepared showing the relative concentration of dwelling units and the area boundaries (fig. 4).

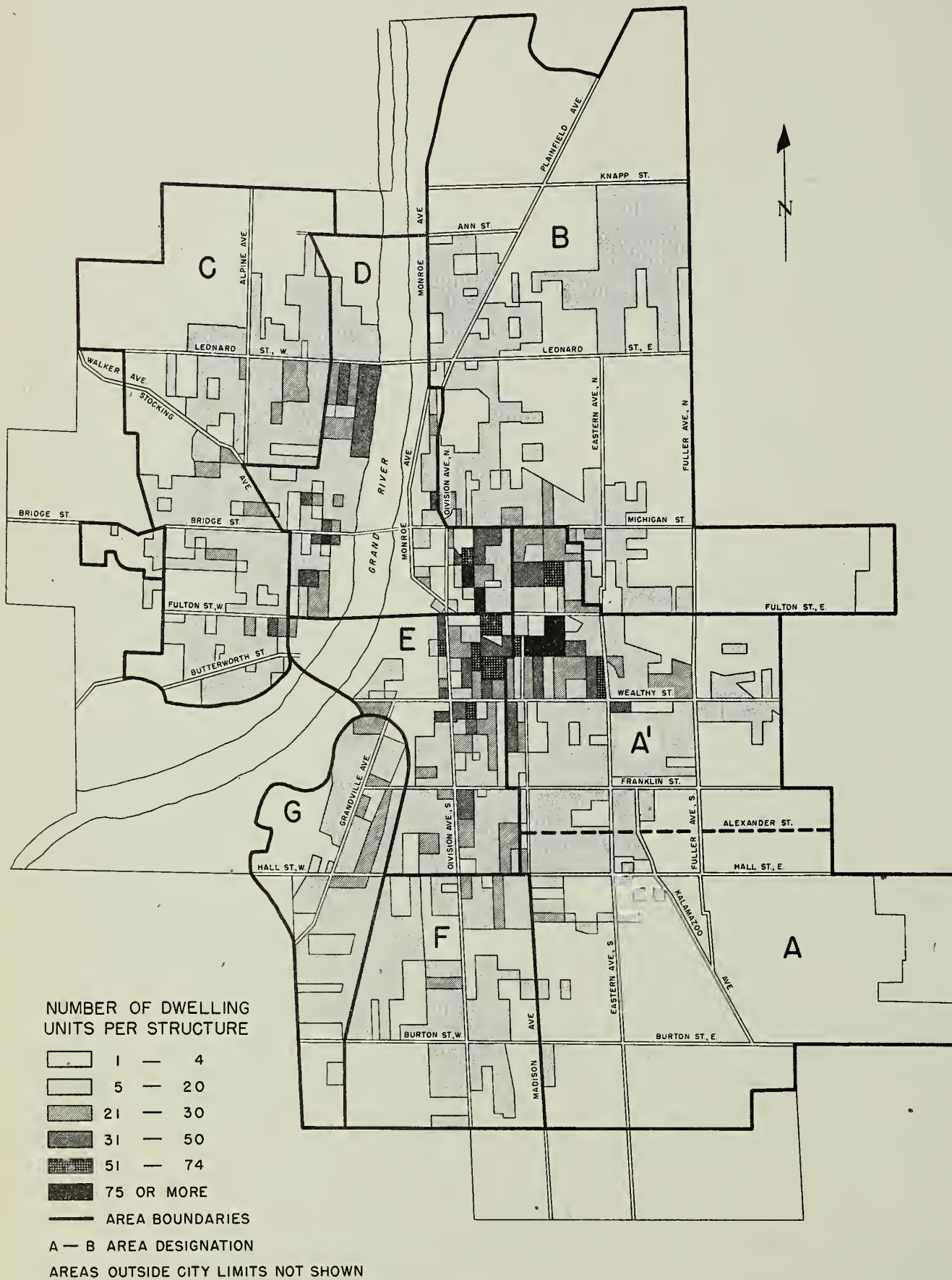
There is an apparent correlation between the concentration of dwelling units and sales of Hy-Rated Brand dehydrated vegetables. In area A-1 we find the highest number of multiple dwelling units and also the greatest volume of sales. Area B, which is second in sales, is also an area having a large number of multiple dwelling units. This indicates that the apartment dwellers, having adapted themselves to live in relatively small spaces, have acquired the habit of purchasing food supplies in a concentrated and convenient form.

It would appear that apartment dwellers are probably, therefore, the easiest to reach and to induce to purchase new products comprising convenience in space saving or preparation. Another factor which undoubtedly has a bearing on the sales within this type of community is the lack of space to grow fresh vegetables.

SALES, JUNE 6 TO OCTOBER 1

Beginning with the week of June 11 weekly sales records were not kept. Starting with June 15 the program was thrown open to any grocer who wished to stock Hy-Rated Brand dehydrated vegetables. The program was also expanded to other western Michigan cities. On October 1 promotional

FIGURE 4
AREAS OF MULTIPLE HOUSING UNITS
GRAND RAPIDS, MICHIGAN



SOURCE: Housing Block Statistics, 16th Census of the U.S., 1939

016544-2

activities associated with the program were discontinued. During the period June 15 to October 1 advertising was continued in the local papers using the Thrifty Housewife, Fisherman, and Camper's ads. There was a total of 15 advertisements run between June 22 and August 30. The radio program of 1-minute spot announcements was continued from June 25 through September 29, twice each day, Monday through Saturday at 11:00 a.m. and at 4:30 p.m.

During this period a "merchandising man" was employed to maintain stocks and displays in all stores stocking the merchandise. Posters were prepared and placed in most of the stores. These posters were semihumorous. The phrase, "Soakem, Cookem, and Eatem," was given a conspicuous place.

The sales of Hy-Rated brand dehydrated vegetables during this period are summarized in table 3.

Table 3. - Approximate sales through test stores in each area and sales through wholesalers, June 6 to October 1

Area	Beets	Carrots	Onions	Sweet-potatoes	Diced potatoes	Julienne potatoes
	<i>Cans</i>					
A.....	144	144	264	720	1,248	1,200
A-1.....	312	360	432	1,776	1,704	1,584
B.....	264	312	504	2,016	2,448	2,088
C.....	168	216	240	936	1,608	1,608
D.....	72	96	48	144	360	264
E.....	72	72	192	408	600	600
F.....	120	120	120	600	960	600
G.....	72	72	144	360	552	552
Total ^a	1,224	1,392	1,944	6,960	9,480	8,496
Wholesale.....	5,712	6,072	9,240	4,536	2,976	2,928
Total.....	6,936	7,464	11,184	11,496	12,456	11,424

^aOnly in those grocery stores where records were kept.

The data presented in table 3 are approximate for each area, since some of the wholesale stock moved into the stores. The wholesale house also moved considerable merchandise to stock orders in other western Michigan cities. This is especially true of the two national chains, the Great Atlantic and Pacific Tea Company and the Kroger Grocery and Baking Company. An inventory of merchandise in the grocery stores was not made at the end of the "Test Sales Program" but information obtained from local wholesaler representatives indicated that practically all the stock had been sold.

Much of the increase in sales during this period, especially in potatoes, was due to the acute shortage of white potatoes which developed during the latter part of June and continued through most of July.

Table 4. - Price per pound of dehydrated products in terms of equivalent weights of raw unprepared vegetables compared with fresh products

Week ending	Beets		Carrots		Onions		Potatoes				Sweetpotatoes	
	Fresh	Hy-Rated	Fresh	Hy-Rated	Fresh	Hy-Rated	Local	Other (old)	Other (new)	Hy-Rated	Fresh	Hy-Rated
Cents												
February												
22.....	9.50	6.78	7.18	7.10	5.00	12.18	3.93	5.30	9.00	11.09	8.09	12.66
March												
1.....	-	-	7.25	-	5.00	-	3.93	-	7.67	-	8.00	-
8.....	-	-	7.25	-	4.20	-	4.20	-	7.70	-	7.25	-
16.....	7.50	-	6.36	-	3.00	-	3.81	-	6.90	-	7.25	-
22.....	-	-	6.33	-	3.50	-	3.70	4.58	7.80	-	7.25	-
29.....	-	-	-	-	-	-	-	-	-	-	-	-
April												
5.....	-	-	6.62	-	-	-	4.60	4.56	-	-	7.25	-
12.....	7.50	-	7.00	-	-	-	3.83	4.80	7.20	-	7.25	-
19.....	-	-	-	-	-	-	-	-	-	-	-	-
26.....	-	-	7.86	-	8.38	-	3.18	4.43	7.39	-	-	-
May												
3.....	-	-	-	-	-	-	-	-	-	-	-	-
10.....	-	-	8.00	-	6.33	-	4.33	-	6.20	-	-	-
17.....	-	-	8.60	-	6.30	-	-	-	5.38	-	7.25	-
24.....	-	5.33	8.67	6.46	6.30	9.14	-	-	5.77	8.16	-	10.00
31.....	-	-	8.00	-	6.33	-	-	-	5.84	-	-	-

In addition to the above sales, 560 cases each containing 24 7-oz. cans of dehydrated potatoes, supplied by an Idaho firm, were sold in the city of Grand Rapids.

PRICE COMPARISON

The price for competitive fresh items was taken from the advertisements of five leading food grocers each week during the test sales program. The prices for the fresh products as advertised are tabulated and presented in table 4.

A comparison of the sales of dehydrated products with the trend in prices of fresh products does not show any significant correlation except in the case of onions. During one period onions were a drug on the local market. Onion dealers were imploring the War Food Administration to step in and purchase in order to support prices.

Merchants cooperated with farmers and made large displays of home-grown onions and in most cases advertised them at attractive prices. Consequently, the sale of the dehydrated onion was very low during the initial period of the test sales program. Figure 3 indicates that the sales of dehydrated onions increased as the season advanced. The old onions passed off the market and new ones from Texas at higher prices came into the market. This was also true of white potatoes. As the old potatoes increased in price and also deteriorated in quality, the new potatoes became relatively scarce and high-priced and the sale of the dehydrated white potato increased materially.

At no time during the entire period of the test sales program was there any apparent shortage of fresh vegetables in any of the test stores and likewise there were at all times ample supplies of canned carrots and canned beets at very attractive prices. There were no ration points on any of the competitive products nor on the dehydrated products and, therefore, the influence of rationing except as it might influence a housewife to seek greater variety in unrationed products was not a factor in the sales of any of the Hy-Rated products.

Detailed data relating to the total merchandise sold are presented in the appendix.

ACCEPTABILITY OF THE DEHYDRATED PRODUCTS

Sales data, while a good indication of acceptability of any product, are not sufficient to warrant extensive outlays for marketing a new product. It is essential in most cases to assemble data from the persons who have bought and used the products in their homes.

Demonstrators working in the stores of Grand Rapids obtained a large number of names and addresses of persons who had purchased Hy-Rated Brand dehydrated vegetables. During the last 2 weeks of August, under the supervision of the Arthur R. Hurst Company, three investigators were

employed to interview a sample of 500 persons whose names had been taken from the above lists. If the person was not at home, the interviewer attempted to get a substitute respondent within the block. This sample of 500 housewives may or may not represent a statistical cross section of Grand Rapids' housewives. However, since persons were interviewed in each of the eight areas of the city the sample probably represents a cross section of those who purchased Hy-Rated Brand dehydrated vegetables in each of these areas.

The questionnaires were tabulated and summarized by the Research Department, J. Walter Thompson Company, and are presented in the following pages.¹¹

Which of the Hy-Rated foods have you purchased?

	<u>Number of purchasers</u>	<u>Percent</u>
Beets	93	19
Carrots	135	27
Onion flakes	124	25
Sweetpotatoes	173	35
Diced white potatoes	281	56
Julienne white potatoes	120	24
Number of persons interviewed	500	-

How did you first happen to buy Hy-Rated foods?

	<u>Number of purchasers</u>	<u>Percent</u>
Saw them in store	310	62
Potato shortage	96	19
Recommendation by friend	56	11
Recommendation by grocer	47	9
Newspaper ad	47	9
Radio program	41	8
Curiosity	37	7
Newspaper article	32	6
Magazine article	15	3
Demonstration	14	3
Husband suggested	8	2
Servicemen recommended	5	1
Gift from friend	4	1
No ration points required	1	-
Heard people talk about them	1	-
Grandson wanted to try because they were "army style"	1	-
Lions Club was selling them	1	-
Store ran special offer (5 cents off with coupon)	1	-
Thought they would be nice on trip	1	-
Number of persons reporting ¹²	498	-

¹¹The complete analysis of these questionnaires is on file in the offices of the National Dehydrators Association, Chicago, Ill.

¹²Column totals more because more than one statement could be made by each respondent.

How many times have you bought each kind of Hy-Rated food?

Number of times purchased	<u>Beets</u>	<u>Carrots</u>	<u>Onion flakes</u>	<u>Sweet- potatoes</u>	<u>Diced white potatoes</u>	<u>Juli- enne white potatoes</u>	<u>Average, all commod- ities</u>
	<i>Percent</i>						
1	63	56	59	58	59	46	57
2	11	12	14	18	13	18	15
3	10	7	10	10	9	10	9
4	1	5	4	3	3	4	3
5	3	4	2	3	2	2	3
6-10	7	9	6	3	8	11	7
11-15	2	2	2	1	2	2	2
16-20	1	1	-	-	1	2	1
36	-	1	-	-	-	-	-
Several	1	1	4	2	2	3	2
Many	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Number of persons reporting	91	133	124	171	278	119	-

Did you like or dislike the Hy-Rated foods which you tried?

	<u>Beets</u>	<u>Carrots</u>	<u>Onion flakes</u>	<u>Sweet- potatoes</u>	<u>Diced white potatoes</u>	<u>Juli- enne white potatoes</u>
	<i>Percent</i>					
Liked	57	64	87	71	51	54
Disliked	30	26	11	22	34	30
Liked in some ways, disliked in others	10	6	2	6	14	15
No opinion	<u>4</u>	<u>3</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>1</u>
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Number of persons	83	126	107	143	263	106

Which Hy-Rated food will you be likely to buy again?

	<u>Beets</u>	<u>Carrots</u>	<u>Onion flakes</u>	<u>Sweet- potatoes</u>	<u>Diced white potatoes</u>	<u>Julienne white potatoes</u>
	<i>Percent</i>					
Will buy again	69	68	87	77	58	65
Might buy - if fresh is unavailable	2	2	2	4	6	6
Will not buy again	28	29	11	16	32	28
Uncertain	<u>1</u>	<u>1</u>	<u>-</u>	<u>3</u>	<u>4</u>	<u>1</u>
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Number of persons reporting	83	125	106	141	258	105

What was attitude toward each Hy-Rated food according to type of family?

	<u>Beets</u>	<u>Carrots</u>	<u>Onion flakes</u>	<u>Sweet- potatoes</u>	<u>Diced white potatoes</u>	<u>Julienne white potatoes</u>
	<i>Percent</i>					
FAMILIES WITH CHILDREN:						
Liked	52	67	87	69	53	51
Disliked	37	31	11	26	31	34
Liked in some ways, disliked in others	<u>11</u>	<u>2</u>	<u>2</u>	<u>5</u>	<u>16</u>	<u>15</u>
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Number of persons	35	57	55	81	121	65
FAMILIES WITHOUT CHILDREN:						
Liked	64	66	87	74	49	51
Disliked	27	23	11	18	38	34
Liked in some ways, disliked in others	<u>9</u>	<u>11</u>	<u>2</u>	<u>8</u>	<u>13</u>	<u>15</u>
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Number of persons	45	64	52	62	121	39
FAMILY COMPOSITION NOT GIVEN:						
Liked		100				100
Disliked		-				-
Liked in some ways, disliked in others		<u>-</u>				<u>-</u>
		<u>100</u>				<u>100</u>
Number of persons		1				1

Summarization of the 500 questionnaires:

Item	Percentage of persons that -						
	Pur- chased	Liked ^a	Dis- liked ^a	Had mixed feel- ings ^a	Re- bought ^b	Will buy again ^b	Will not buy again ^b
Beets.....	19	57	30	10	37	69	28
Carrots.....	27	64	26	6	44	68	29
Onion flakes.....	25	87	11	2	41	87	11
Sweetpotatoes.....	35	71	22	6	41	77	16
Diced white potatoes.....	56	51	34	14	41	58	32
Julienne white potatoes.....	24	54	30	15	54	65	28

^aBased on number of persons that tried individual products.

^bBased on number of persons that purchased individual products.

Not only did diced white potatoes lead other varieties in extent of being purchased but 60 percent of the women buying this product purchased it exclusively as their first item. This is a higher percentage than purchased any other item first. Both of these facts are attributable to some extent to the potato shortage.

Of those buying each of the six Hy-Rated items, more women rebought Julienne white potatoes and fewer rebought beets than any of the other items.

Since the survey did not determine the amounts purchased, these percentages are of comparative significance.

Of those trying each food and expressing an opinion, more women liked them than disliked them. The average of all six products was about 67 percent liking to 27 percent disliking, or a ratio of 2 to 1. A few women had mixed feelings - liked the products in some respects but disliked them in others.

Among the six products onion flakes was liked by proportionately more women and diced white potatoes by proportionately fewer women who tried them than the other products.

Reasons for liking or disliking Hy-Rated foods chiefly concerned taste or flavor. Women either liked or didn't like the flavor - or thought the flavor inferior to the fresh or the canned products. Convenience or troublesome preparation were secondary. This applies particularly to beets and carrots.

However, for onion flakes and the three potato items, women who liked them placed convenience before taste. Those trying onion flakes particularly spoke of ease of preparing, the elimination of odorsome peeling

and cutting, the convenience when small amounts are needed for seasoning. Concerning the potatoes, elimination of peeling and small storage space required were pointed out.

On the basis of the 500 women who purchased one or more Hy-Rated foods, rather sizable proportions will buy again. On the basis of those trying the individual varieties, considerable majorities will buy again.

While these data ostensibly reflect nothing more than buying intentions, they have significance in another way. Note that diced potatoes leads all other foods when all women interviewed are considered. This is because of the more extensive purchase of this item. However, five other products lead diced potatoes in buying intentions when only those who have tried a given product are considered. This suggests that diced potatoes has probably relatively low repeat value in its own right and presumably was sold largely because of shortages.

COSTS

The cost of materials, supplies, dehydrated products, and packaging labor are shown in table 5. The costs of packaging do not include plant or supervisory overhead, only the actual labor costs are included. Since this was the first experience of this plant in packaging dehydrated vegetables and since the equipment used for packaging was not particularly adapted to this operation, especially the sealing machine, it is impracticable to project these costs to a regular commercial operation set up especially for the packaging of dehydrated vegetables. The average cost of the product and packaging per case of 24 cans, ready for shipment to Grand Rapids, Michigan, was \$2.43, or 10.1 cents per can. Had the project been of sufficient size to warrant shipment of the dehydrated products in carload lots and the purchase of cans and cartons in carload lots, the cost would have been considerably less. For example, the cost of cans is approximately 20 percent less in car lots and the car lot freight rate on dehydrated vegetables is less than half the l.c.l. rate. Further savings could be effectuated in packaging equipment designed for handling dehydrated products. It is estimated that the costs on a large-scale operation using improved packaging equipment would be about half of the above.

The inserts included in table 5 should be properly charged to advertising, but since they were placed in the cans at time of packaging and added to the labor costs, they were included here.

The costs incurred in getting the merchandise from Pierceton, Indiana, into warehouse at Grand Rapids, Michigan, and launching the program are presented in table 6.

The total costs, tables 5 and 6, for getting the program ready to launch are \$11,368.77. They averaged \$2.64 per case or 11 cents per can. The value of the merchandise to the wholesaler at the reduced price which became effective May 22 was \$10,114.48 for the consumer packages only. The original stock of the 45 test stores was 174 cases of each item except diced white potatoes of which there were only 159 cases.

Table 5. - Costs: Materials, supplies, dehydrated products, packaging labor

Item		Cost		Total
MATERIALS AND SUPPLIES:				
<u>Cans</u>				
Size 208x308 onions		18,396 @ \$34.51 /M		\$634.85
Size 211x400 potatoes		55,080 @ \$14.828/M		816.73
Size 202x308 beets and carrots		36,600 @ \$12.06 /M		<u>441.40</u>
				\$1,892.98
<u>Packing cases</u>				
For 208x308		697 @ \$28.50 /M		19.86
For 211x400		2,344 @ \$45.10 /M		105.71
For 202x308		1,567 @ \$39.30 /M		<u>61.58</u>
				187.15
		<u>Products</u>	<u>Freight</u>	
DEHYDRATED PRODUCT:				
	<u>Cases^a</u>			
Beets	595	\$851.67	\$71.28	922.95
Carrots	763	666.96	135.60	802.56
Onions	742	1,263.04	113.93	1,376.97
Sweetpotatoes	763	1,364.24	123.32	1,487.56
Diced white potatoes	763	1,470.11	65.37	1,535.48
Julienne white potatoes	<u>763</u>	<u>1,053.51</u>	<u>210.48</u>	<u>1,263.99</u>
Total	4,389	6,669.53	719.98	7,389.51
LABOR PACKAGING				868.46
MISCELLANEOUS - Not included in cost/case				21.57
INSERTS - Including express charges of \$8.03				<u>523.93</u>
				<u>1,413.96</u>
Total				\$10,883.60

^a24 cans each.

Table 6. - Costs incurred in getting the merchandise from Pierceton, Indiana, to Grand Rapids, Michigan, and launching the program

Item	Cost
FREIGHT:	
21,245 pounds	\$94.09
19,697 pounds	87.21
STORAGE AND HANDLING:	
Into warehouse, including storage to April 30	183.03
MISCELLANEOUS:	
Printing (forms)	20.00
Mounting posters	50.00
Glass jars	4.24
Questionnaire forms	2.73
Photographs	4.12
Delivering posters to test stores	18.00
Delivering first order merchandise	<u>21.75</u>
TOTAL	<u>\$485.17</u>

SUMMARY AND CONCLUSIONS

This study was concerned with the distribution of dehydrated vegetables through regular trade channels and the consumer acceptance of these items in Grand Rapids, Michigan, under practical marketing conditions. It was designed to demonstrate the effect of income level, promotion, consumer acceptance, and comparative price on sales of dehydrated products. The general procedures for carrying out the test sales program were formulated and guided by a committee widely representative of the dehydration industry.

The products included were diced beets, carrots, sweetpotatoes, white potatoes, onion flakes, and julienne white potatoes. Approximately 18,000 cans of each of the six products were packaged in tin containers designed to hold four servings each. The merchandise was distributed during the initial period (March 6 to June 4) through 45 stores selected to represent a cross section of Grand Rapids. The program was later expanded to include any grocer who wished to participate. Following the sales test, 500 purchasers of dehydrated vegetables were interviewed in their homes and information obtained pertinent to their purchase and use of the products.

Intensive efforts were made at the beginning and throughout the test to acquaint retailers, service groups, and consumers with the dehydrated vegetables through meetings, demonstrations, publicity, and advertising. Many of these are activities which normally would be employed in introducing a new product to a market.

As a result of the initial efforts sales averaged over 1,600 cans the first week. Sales gradually declined, however, for the next 8 weeks and then increased until a weekly volume of over 1,000 cans was reached.

It would be expected that sales at the beginning of the test would be heavy because of the publicity and promotion. The following steady decline in sales in spite of continuous newspaper advertising demonstrated that these products cannot be merchandized by customary or usual methods. This was further brought out in the closing weeks of the test when sales increased as other advertising and promotional media were employed.

Dehydrators who contemplate selling their products through retail channels of distribution may expect to encounter considerable buying inertia on the part of retailers and consumers which can be overcome only by extensive and expensive advertising and promotion of acceptable products. Dehydrators must decide whether sales in the long run will justify such heavy expenditures. This cannot be fully determined by a test running only 30 weeks. There are indications, however, that dehydrated vegetables of good quality can be sold with varying degrees of success in selective markets.¹³

¹³The results obtained in this test necessarily apply primarily to the dehydrated products sold in Grand Rapids. There are many other vegetables that are dehydrated, some of which may prove to be fully or more acceptable than any of these five.

Total sales for 7 months (March 1 to October 1) were over 70,000 cans. Sweetpotatoes were sold in greatest volume, followed by onions, carrots, julienne potatoes, diced potatoes, and beets. The per capita consumption of these six products was at the rate of 0.21 pounds per year from June 6 to October 1 when the products were available to all retailers in Grand Rapids. Projecting this on a national basis total annual sales of approximately 29 million pounds might be expected, providing similar advertising and promotional efforts were expended nationally.

Advertising and promotion such as group meetings and demonstrations, cooking demonstrations, and taste tests in retail stores were instrumental in encouraging sales. However, all the usual types of advertising and promotion were employed. The results of this test indicate that a well-rounded advertising and promotional campaign with special emphasis on store and group demonstrations is of prime importance in gaining consumer preference.

Consumers in the high- and medium-income groups and apartment dwellers purchased the dehydrated vegetables in greatest quantity and these groups should be the easiest to reach and to sell. Apartment dwellers particularly should be receptive to these products since they have already acquired the habit of buying food supplies in a concentrated and convenient form.

Sales to recreational groups were in considerable volume and reports from these groups were highly satisfactory. The recreational field should offer a considerable market for dehydrated foods.

Some correlation was noted between available quantities of potatoes and onions and sales of the dehydrated products. When potatoes were relatively scarce sales of dehydrated potatoes increased and when onions were plentiful sales of dehydrated onions were low.

Insofar as practical, prices of the dehydrated vegetables were calculated to be comparable to the prices of an equivalent volume of the fresh or canned product. Dehydrated beets were lower in price than the fresh; carrots were about the same; and dehydrated potatoes, sweetpotatoes, and onions were priced above the fresh. There is no evidence except in the case of onions, that retailers or consumers considered prices to be too high. However, sales of all dehydrated products did increase when prices were reduced.

Based on the replies of the 500 persons interviewed 43 percent of those buying one or more of the dehydrated vegetables bought twice and 13 percent purchased more than 5 times. Thus it can be assumed that about 1 out of 8 purchasers might be steady customers for these products.

Two-thirds of the persons interviewed who had tasted one or more of the 5 products stated they would buy them again. About one-third of those who used dehydrated beets, carrots, and potatoes disliked them; one-fifth disliked sweetpotatoes; and one-tenth disliked onions.

Likes and dislikes were associated principally with the taste and flavor of beets and carrots and the convenience of potatoes, sweetpotatoes, and onions.

APPENDIX

Table 7. - Summary of reports of six "test kitchens" concerning certain Hy-Rated brands of dehydrated vegetables^a

Product	Rating distribution according to ^b														Need for recipe improvement ^c
	Flavor and taste				Ease of preparation			Appearance				Texture			
	E	G	F	P	E	G	P	E	G	F	P	E	G	F	
Beets.....	2	1	2	1	1	2	1	1	4	-	1	-	1	1	4 yes
Carrots.....	1	3	1	1	-	3	1	1	4	-	1	1	-	1	3 yes
Onions.....	2	1	-	1	-	1	1	2	1	-	1	-	1	-	2 yes
Sweetpotatoes...	1	3	1	1	-	3	1	1	3	1	1	-	1	1	4 yes
White potatoes..	1	2	2	1	-	3	1	3	1	-	2	-	-	2	5 yes

^aAdditional comments of test kitchens not tabulated above:

Diced white potatoes served in potato salad were rated excellent.

Flavor and texture varied with type of white potato product and method of preparation. Hashed brown julienne potatoes were rated very good; all others fair or good.

Appearance also varied with type of white potato product and method of preparation. Hashed brown julienne potatoes were rated excellent; scalloped diced potatoes, poor; the remainder, fair to good.

Flavor, appearance, and texture varied from fair to good in different products according to method of preparation.

"Ease of Preparation" was criticized by one taster from the point of view of the recipe on the label. In every case the soaking time given on the label was considered insufficient for preparing a palatable dish.

Dehydrated foods are a "last resort" item. As long as other products are available at reasonable prices, the demand for dehydrated foods is likely to be small.

The clean, sanitary appearance in the package and the characteristically bright color are among the assets of dehydrated foods. Others are simplicity and ease of preparation.

The packages used for this brand of dehydrated vegetables are practical and attractive. They provide good recipe suggestions.

Decreased spoilage and ease of storage give dehydrated products advantages over fresh, frozen, or canned products, particularly for city residents.

^bExplanation: E-Excellent; G-Good; F-Fair; P-Poor.

^cAny suggested modification of the recipes on the label was considered a suggestion that the recipes needed improvement.

Note: It is interesting to note that most of the "test kitchens" rated the products either "Excellent" or "Good" and also that most of them expressed the opinion that the directions on the labels needed improvement. The suggested improvements in most cases involved the soaking time.

CHARACTERISTICS OF AREAS STUDIED

The various population segments of Grand Rapids, especially the older groups, are fairly well defined within certain areas of the city. Census records give in detail by blocks various economic factors including data on the rental values of occupied dwellings. Therefore, the relative income levels of the various population segments could be determined and sample stores that serve each of these levels could be located.

The following designations of the income groups included in the test should be helpful in appraising results.

UPPER - INCOME GROUP

Persons and families whose income is sufficient to provide adequate food, shelter, and other necessities of comfortable living and who own the better-class homes. They enjoy most of the luxuries available in the area. Purchases are usually on a basis of quality rather than price.

MEDIUM-MIDDLE - INCOME GROUP

Intermediary between upper- and middle-income groups.

MIDDLE - INCOME GROUP

Persons and families whose income is sufficient to provide adequate food, shelter, and other necessities of comfortable living and who own their homes but enjoy few of the luxuries available in the area. Purchases are frequently on the basis of price.

MEDIUM - LOW - INCOME GROUP

Intermediary between the middle- and lower-income group.

LOWER - INCOME GROUP

Persons and families whose income is rarely sufficient to supply adequate food, shelter, and other necessities of comfortable living. Few in this group own their homes. Funds expended for luxuries usually come from the food or clothing budget.

AREA A--SOUTHEAST SECTION OF THE CITY

Within this area are located five of the test stores, two of which are national chains and the remaining three self-service and delivery, combination grocery and meat stores. Included within a portion of this area are three of the highest income levels to be found within the city of Grand Rapids. The remaining portion of the area would be classed as the middle- and upper-income groups. Some of the best homes are to be found within the area, a large proportion of which are owned by the occupants. Within its boundaries are to be found a large percentage of the more successful business and professional people, most of whom have ample means to satisfy all the necessities and most of the luxuries common to the city of Grand Rapids. The foodstuffs purchased by the residents of this area and the purchases of food supplies are guided principally by quality rather than by price or quantity.

AREA A-1 - SOUTHEAST SECTION OF THE CITY

This area lies immediately adjacent to area A and is similar to it insofar as population and income characteristics are concerned. There are located within this particular area six of the test stores, two of which are national chains, one self-service local chain, one self-service

independent that is patronized by some of the lower-income group from adjacent areas including colored, one self-service independent that is patronized by the medium-middle-income group mostly of foreign ancestry, and one service and delivery store that has a large clientele doing business principally over the telephone. This particular store, based upon merchandise carried and upon clientele, would probably be rated as of the highest type to be found in any city. Also within this area is to be found the highest concentration of people and also the largest number of apartment dwellers. One of the test stores located in this area is probably the largest national chain store in the city and draws customers from areas other than A-1. Being situated on the main artery of travel to the East Grand Rapids area, no doubt it draws a large number of people from that area who do a major portion of their food buying in this particular store.

AREA B - NORTHEAST SECTION OF THE CITY

Within this area are located seven of the test stores, of which one is a national chain whose clientele is principally of Polish descent and has a range in income from the lower to the upper group. There are three local chains, the clientele being principally the medium- and lower-income groups. There are two self-service and delivery independents catering to the middle- and upper-income groups and one self-service independent catering to the lower- and the medium-income groups. Included within this area are the lower-middle-income group, mostly people who own their own homes, although not as new and modern dwellings as are to be found in Area A. Along the southern boundary of this area there are a number of apartment dwellers. The area in general does not have a highly concentrated population; yet many of the old dwellings, which were built originally to house larger families that characterized the early nineteen hundreds, have been divided in many cases into apartments. The people in this area would normally have sufficient income to afford all the necessities and many of the luxuries common to Grand Rapids.

AREA C - NORTHWEST SECTION OF THE CITY

Within this area are located nine of the test stores, two of which are national chains; three are self-service and delivery, whose clientele are principally of the lower- and middle-income groups; and four are self- and semiself-service independent stores. This particular area is made up almost entirely of people of Polish, Hollander, and German descent generally classed as the lower-middle-income group, mostly factory workers and mechanics. In general, the people within this area have their own vegetable gardens and usually can such items as carrots, beets, and other vegetables which lend themselves to home canning. The families within this area are generally much larger than those to be found in any other portion of the city with the possible exception of those of the lowest-income group located within Areas D and E. Indications are that these people generally resist change and it is, therefore,

extremely difficult to induce them to try new products. As one merchant put it, "They are set in their ways."

AREA D-PRINCIPALLY IN THE NORTHWEST DIVIDED BY THE GRAND RIVER

Within this area are located only two of the test stores, one of which is a self-service independent whose clientele is mostly a lower-middle-income group of Polish, Hollander, German, and Irish descent, and the other is a self-service local chain which also caters to the lower-middle-income group mostly of foreign descent and occupying very poor apartments to be found scattered throughout the area. There are other stores located adjacent to this area and, therefore, some of the residents may trade in the large national chain located on the main artery bounding the area on the west. Within this area is to be found the lowest-income group of the city and also the highest number of persons per family. While not all the dwellings within the area are old, most of them are badly in need of repair and it is likely that during normal demands for labor many of these people would be without work and probably unable to satisfy all their needs for the simple necessities of life.

AREA E- PARTLY IN THE SOUTHEAST AND SOUTHWEST

Within this area are located eight of the test stores, none of which is a national chain. Three are self-service and delivery, although not having a complete delivery service; one is complete service and delivery. This particular store probably carries one of the most complete stocks of groceries and meats to be found in any of the stores in Grand Rapids. It has a clientele of between 500 and 1,000 people carrying charge accounts. The store is located on the principal north and south traffic artery and immediately adjacent to the principal east and west traffic artery. Therefore, in addition to its large list of regular clientele many "transients" trade in this store. It cannot, therefore, be classified as catering to any particular class or group of individuals. There are three self-service stores that cater principally to the lower-income group and foreigners of Syrian and Italian descent and also some colored people. One is completely self-service with no delivery; it serves both the lower- and the middle-income groups. This area is made up of two distinct income groups, the lower and the low-middle; but is located in one of the older sections of the city. Consequently, a large portion of the housing units to be found within the area are flats located above business establishments.

The area is bisected by the principal north and south traffic artery and consequently has a high concentration of retail business places located along this artery. Most of the people within the area are employed in factory work - day laborers and the less-skilled mechanics. The principal railroad yards for handling the large volume of freight moving in and out of the city are located immediately adjacent to the western boundary of the area and, therefore, probably a large number of the people find their main source of employment in these yards and in the freight warehouses located along them.

AREA F - SOUTHWEST SECTION OF THE CITY

In Area F are located six of the test stores, two of which are national chains; one is a self-service local chain and can be classed as a super-market type and insofar as merchandise carried, prices, and clientele, it is comparable to the national chains; two are semiself-service and delivery, one of which is a small store situated outside the city limits and serving a very limited number of customers; and one is a self-service whose customers are principally in the lower-income group, including Syrians and Italians.

A part of this area extends out of the city limits and includes a large area of small home owners in a new development, most of whom are employed in factories located within or adjacent to the area. The group occupying this area in general are of the lower-middle-income group and in most cases have adequate facilities for vegetable gardens and therefore raise most of their vegetable requirements during the summer months and can a good deal of their winter requirements.

One of the stores described above, the national chain, is located in the Goodwin Heights area outside the city limits and another one, a self-service and delivery is located in Home Acres. The population served by these two stores is fairly representative of that patronizing small community grocery stores found in many of our smaller urban cities and is slightly different than the population in the remainder of the area centered around the Burton Heights District. Within this latter district reside a considerable number of apartment dwellers. The apartments generally are in homes converted to multiple unit houses in the last few years.

AREA G - SOUTHWEST SECTION OF THE CITY IMMEDIATELY WEST OF AREA F

Two of the test stores are located in this area, one being a national chain and the other a self-service and delivery independent store. Both of these stores cater to or have as their clientele the lower- and middle-income groups. The majority of the people residing within the area are either of Hollander or Polish ancestry. Dwellings are usually large which usually indicates large families. This area is also immediately adjacent to the mail railroad yards and, therefore, most of the workers within the area find their employment in these yards and in adjacent warehouses.

The area is bisected by a main artery leading to the city of Chicago and consequently has considerable traffic. The national chain, having adequate parking space, no doubt gets a large number of people who live just outside the city limits in the Burlingame community, and therefore sales in this store may not be representative of the people residing within the area.



